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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,925	02/06/2001	Dongsoo S. Kim	67742-13	6190

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EXAMINER

DUONG, FRANK

ART UNIT PAPER NUMBER

2666

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/777,925	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Frank Duong	<b>Art Unit</b> 2666	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/25/05, 7/20/05, 8/17/05.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11-13 and 22-32 is/are rejected.
- 7) ☒ Claim(s) 4-10 and 14-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is a response to communications dated 08/17/05. Claims 1-32 are pending in the application.

#### ***Response to Amendment***

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-3, 11-13 and 22-32 are rejected under 35 U.S.C. 102(a) as being anticipated by Makam et al (A Path Protection/Restoration Mechanism for MPLS Networks, Internet Draft, pages 1-24, November 2000) (hereinafter "Makam").

Regarding **claim 1**, in accordance with Makam reference entirety, Makam discloses a method for implementing protection switching for a virtual private network (*VPN is inherent in MPLS network of Fig. 1*) comprising the steps of:

establishing a working virtual private network path (*page 6, path (1-2-3-4-6-7); discussion pertaining Working path*) and a protection virtual private network path (*page 6, path (1-5-7); discussion pertaining Recovery path*) between a first edge node (LSR 1)

Art Unit: 2666

and a second edge node (LSR 7) (*the establishing a Protection Domain is also discussed on page 13, section 5.1*); and

switching traffic (PSL) from the working virtual private network path to the protection virtual private network path when detected traffic congestion in the working virtual private network path exceeds a predetermined threshold (*page 6; discussion pertaining Path Switch LSR (PSL) and Thresholds are discussed on page 12, section 4.4. Moreover, switch over is also discussed on page 22, section 8.0 and thereafter*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Makam further discloses detecting failure of the working virtual private network path; and switching traffic from the working virtual private network path to the protection virtual private network path when failure of the working virtual private network path is detected (*page 6; discussion pertaining Path Switch LSR (PSL) and thereafter*).

Regarding **claim 3**, in addition to features recited in base claim 1 (see rationales discussed above), Makam further discloses detecting a return to proper functioning of the working path; and switching traffic from the protection path to the working path when said return to proper functioning of the working path is detected (*page 7; discussion pertaining Fault Recovery Signal. Switch back is also discussed on page 22, section 9.0 and thereafter*).

Regarding **claim 11**, in addition to features recited in base claim 1 (see rationales discussed above), Makam further shows a plurality of quality of service parameters (bandwidths) assigned to said working virtual private network path and said

Art Unit: 2666

protection virtual private network path (*page 18, bandwidths reserved for working and protection paths are discussed thereafter*).

Regarding **claim 12**, in accordance with Makam reference entirety, Makam shows an apparatus for protection switching of a virtual private network (VPN is inherent in MPLS network of Fig. 1) comprising:

a working virtual private network path (*path (1-2-3-4-6-7) of Fig. 1 on page 9 and as described on page 6, section. 4.0*) connected between a first edge node (LSR 1) and a second edge node (LSR 7);

a protection virtual private network path (*path (1-5-7) of Fig. 1 on page 9 and as described on page 6, section. 4.0*) connected between the first edge node (LSR 1) and the second edge node (LSR 7);

a congestion detector (*not shown; inherent as disclosed at page 2, bullet(iii) as fault detection mechanism is discussed thereafter*); and

a data switch (Path Switch LSR), wherein when data is transmitted across the working virtual private network path, said congestion detector is configured to detect traffic congestion on said working virtual private network path and said data switch (PSL) switches said data from said working virtual private network path to said protection virtual private network path when said traffic congestion exceeds a predetermined threshold (*page 6; discussion pertaining Path Switch LSR (PSL) and Thresholds are discussed on page 12, section 4.4. Moreover, switch over is also discussed on page 22, section 8.0 and thereafter*).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Makam further shows a failure detector, wherein said failure detector detects failure of said working virtual private network path and said data switch switches said data from said working virtual private network path to said protection virtual private network path when said failure is detected by said failure detector (*not shown; inherent as disclosed at page 2, bullet(iii) as fault detection mechanism is discussed thereafter*).

Regarding **claim 22**, in addition to features recited in base claim 12 (see rationales discussed above), Makam further shows a plurality of quality of service parameters (bandwidths) assigned to said working virtual private network path and said protection virtual private network path (*page 18, bandwidths reserved for working and protection paths are discussed thereafter*).

Regarding **claim 23**, in addition to features recited in base claim 22 (see rationales discussed above), Makam further shows wherein said first edge node and said second edge node are synchronized according to said plurality of quality of service parameters (*page 18, bandwidths reserved for working and protection paths are discussed thereafter. Moreover, the reserved bandwidths for working and protection paths should be the same; thus, synchronized*).

Regarding **claim 24**, in accordance with Makam reference entirety, Makam discloses an apparatus (Fig. 1) to implement switching between a working virtual private network path (1-2-3-4-6-7) and a protection virtual private network path (1-5-7) between a virtual private network (*VPN is inherent in MPLS network of Fig. 1*), comprising:

a monitor module (not shown; inherent as discussed above) configured to monitor the working virtual private network path to monitor traffic flow thereon, the monitor module configured to cause a switch (Path Switch LSR (PSL)) in traffic from the working virtual private network path to the protection virtual private network path in response to a detected event (FIS or FRS) selected from a group of events (FIS and FRS) comprising congestion in the working virtual private network path that exceeds a predetermined threshold and link failure in the working virtual private network path (*page 5 and thereafter, it is disclosed PSL is responsible for switching of the traffic between working and protection paths in an event of a fault is detected*).

Regarding **claims 25-26**, in addition to features recited in base claim 24 (see rationales discussed above), Makam further discloses Path Switch LSR on page 6 in an event that a fault is detected and on page 14, Revertive Option is discussed to specify whether the recovery action is revertive.

Regarding **claim 27**, in addition to features recited in base claim 24 (see rationales discussed above), Makam further discloses the monitor module (not shown; inherent) being integrated into label switch router (PSL) (see Fig. 1).

Regarding **claim 28**, in addition to features recited in base claim 24 (see rationales discussed above), Makam further discloses working and protection paths are established as depicted in Fig. 1 and shows the monitor module is configured to operate independently from first and second router/switches (PML) (*Fig. 1 and Path Merge LSR (MPL) discussed on page 6 and thereafter*).

Art Unit: 2666

Regarding **claim 29**, in accordance with Makam reference entirety, Makam discloses a virtual private network (VPN is inherent in MPLS network of Fig. 1), comprising:

a label switch router (LSR 1) configured for communication over a communication network (Fig. 1), the router/switch being configured to established a working virtual private network path (1-2-3-4-6-7) and a protection virtual private network path (1-5-7) over the communication network (see Fig. 1 for connection detail);

a monitor module (not shown; inherent as discussed above) configured to monitor the working virtual private network path to monitor traffic flow thereon, the monitor module configured to cause a switch (Path Switch LSR) in traffic from the working virtual private network path to the protection virtual private network path in response to a detected event (FIS or FRS) selected from a group of events (FIS and FRS) comprising congestion in the working virtual private network path that exceeds a predetermined threshold and link failure in the working virtual private network path (*page 5 and thereafter, it is disclosed PSL is responsible for switching of the traffic between working and protection paths in an event of a fault is detected*).

Regarding **claim 30**, in addition to features recited in base claim 29 (see rationales discussed above), Makam further discloses Path Switch LSR on page 6 in an event that a fault is detected and on page 14, Revertive Option is discussed to specify whether the recovery action is revertive.



Regarding **claim 31**, in addition to features recited in base claim 29 (see rationales discussed above), Makam further discloses the monitor module (not shown; inherent) being integrated into label switch router (PSL) (see Fig. 1).

Regarding **claim 32**, in addition to features recited in base claim 29 (see rationales discussed above), Makam further discloses wherein the monitor module is configured to operate independently from the label switch router (PML) (*Fig. 1 and Path Merge LSR (MPL) discussed on page 6 and thereafter*).

#### ***Allowable Subject Matter***

4. Claims 4-10 and 14-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, considered individually or in combination, fails to fairly show or suggest the claimed invention of base claims 2 and 12 and further limit with limitations in a manner as recited in the dependent claims 4-10 and 14-21, structurally and functionally interconnected with other limitations.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-32 as in the Remarks of the responses filed 01/25/05, 7/20/05 and 8/17/05 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2666

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

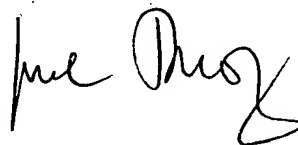
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Frank Duong', is positioned above the printed name.

**FRANK DUONG  
PRIMARY EXAMINER**

September 2, 2005